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Invention Title: Multi-Axes Tool Compensation – 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

Inventor: Gary John Corey

Application No. 10/079,309

Inventor's Phone No.: (909) 674-8100



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CNC Machine Tool Parameters Ver 12

Tool Parameters								Tool Definitions (Solid Mode Only)				
Size	Horz	Vert	Height	Wear	Custom1	Custom2		Corner radius	Bottom angle	Side angle	Length	Type
1	0.25	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	3.0	0
2	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
3	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
4	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
5	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
6	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
7	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
8	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
9	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0
10	0.0	0.0	0.0	0.0	0.0	0	0	0.0	0.0	0.0	0.0	0

Machine Offsets							
X	Y	Z	4	5	6	7	8
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Fixture Offsets						
	G54	G55	G56	G57	G58	G59
X	0.0	0.0	0.0	0.0	0.0	0.0
Y	0.0	0.0	0.0	0.0	0.0	0.0
Z	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0
5	0.0	0.0	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0

Optional Settings

☐ Dry Run (Disable Z Spindle Feed Mode)

☐ Bitmap G code Display (Speed Penalty)

☒ Graphics: Solids vs Wire Frame

0.001 Tolerance (math and positioning)

/ Block Skip Character

TeachX Teach File Name (No Paths)

Faruk Arc Centers:

☒ Absolute (0)

☐ Incremental (1)

☐ R for Radius (2)

Solid Stock

Begin Z @ 0.0

Extra Stock 1.0

F4 key F3 key F2 key F1 key

F5 Tool Definitions F6 Tool Life F7 Tool Photos F8 Convert to Metric F9 Convert to Inch

FIG 1.

Invention Title: Multi-Axes Tool Compensation – 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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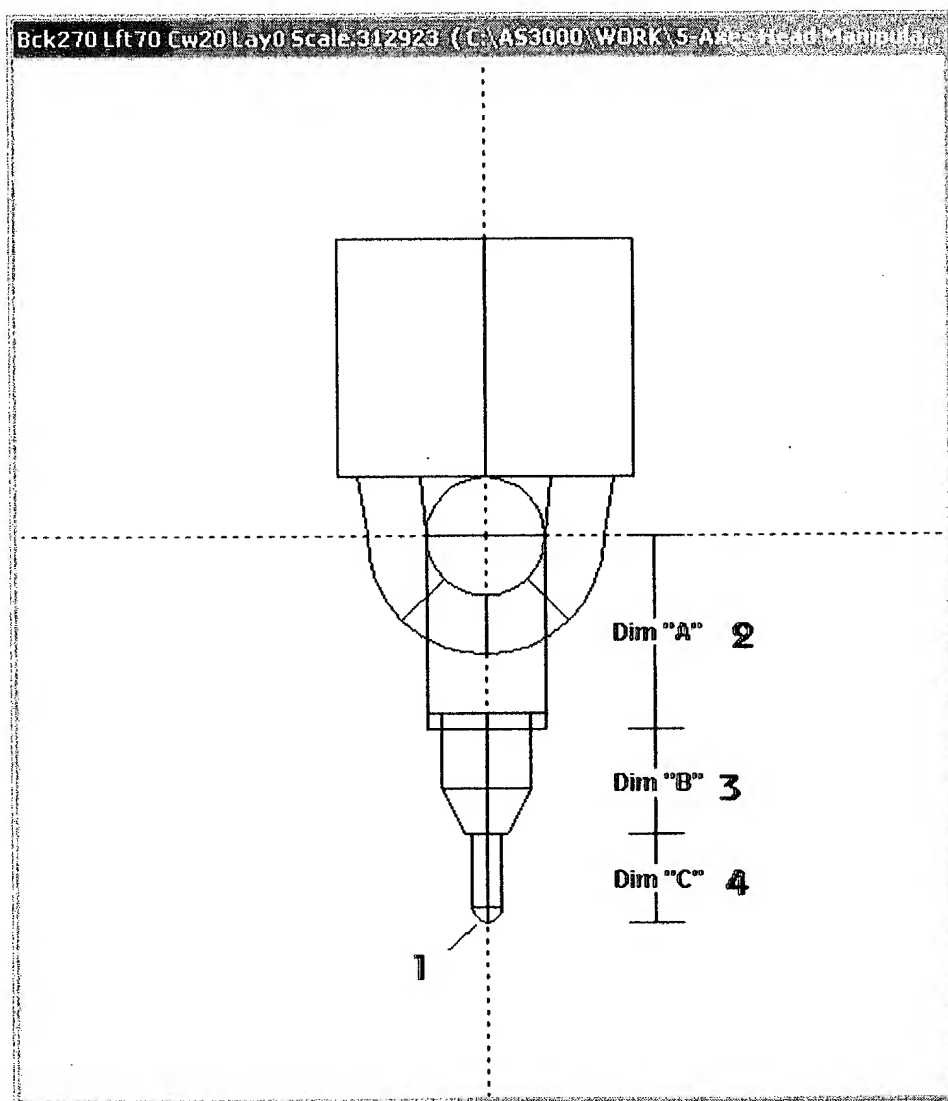


FIG 2.



Invention Title: Multi-Axes Tool Compensation – 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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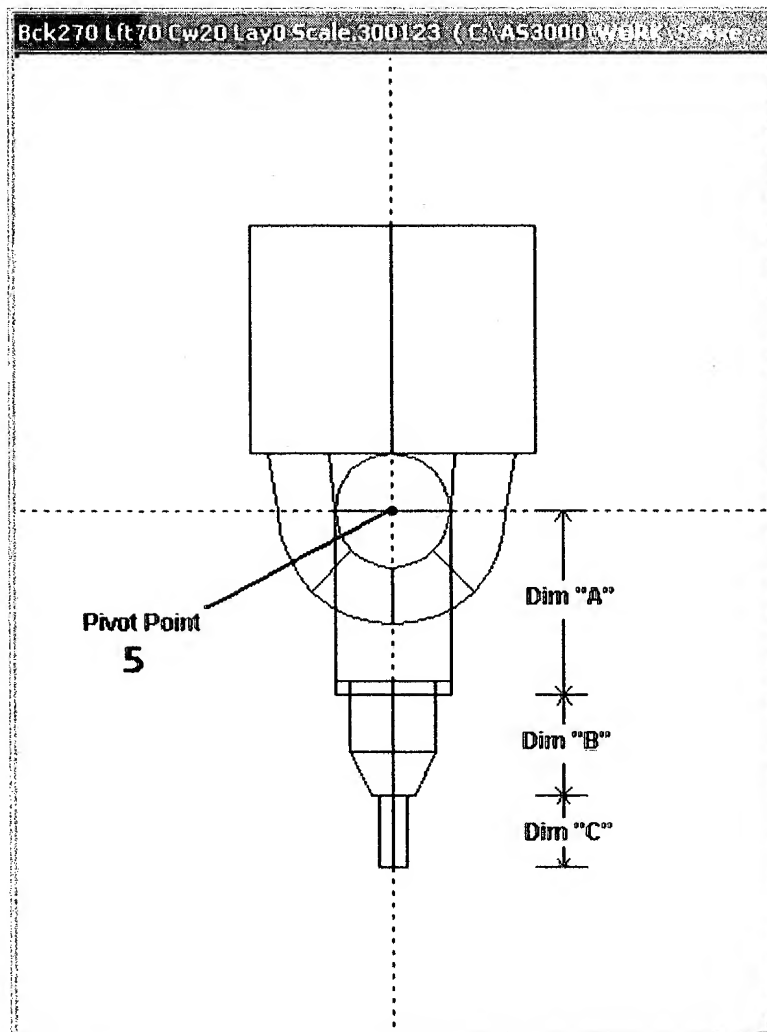


FIG 3.

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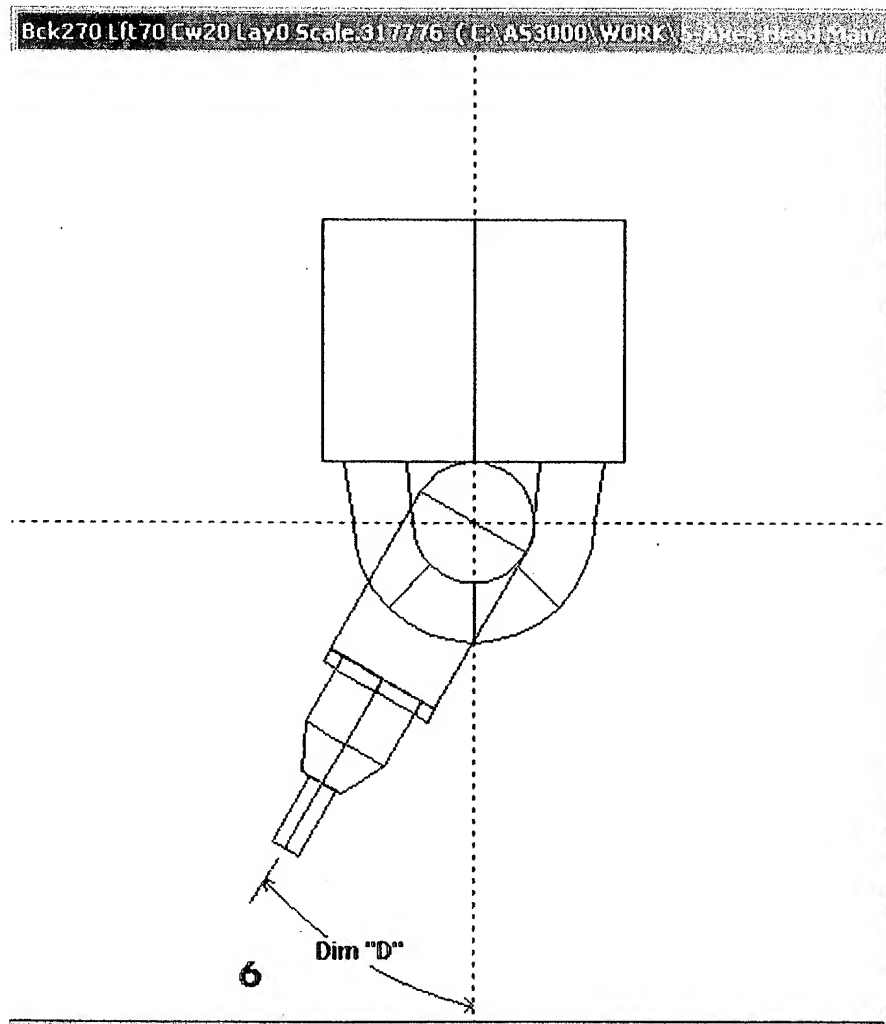


FIG 4.



Invention Title: Multi-Axes Tool Compensation – 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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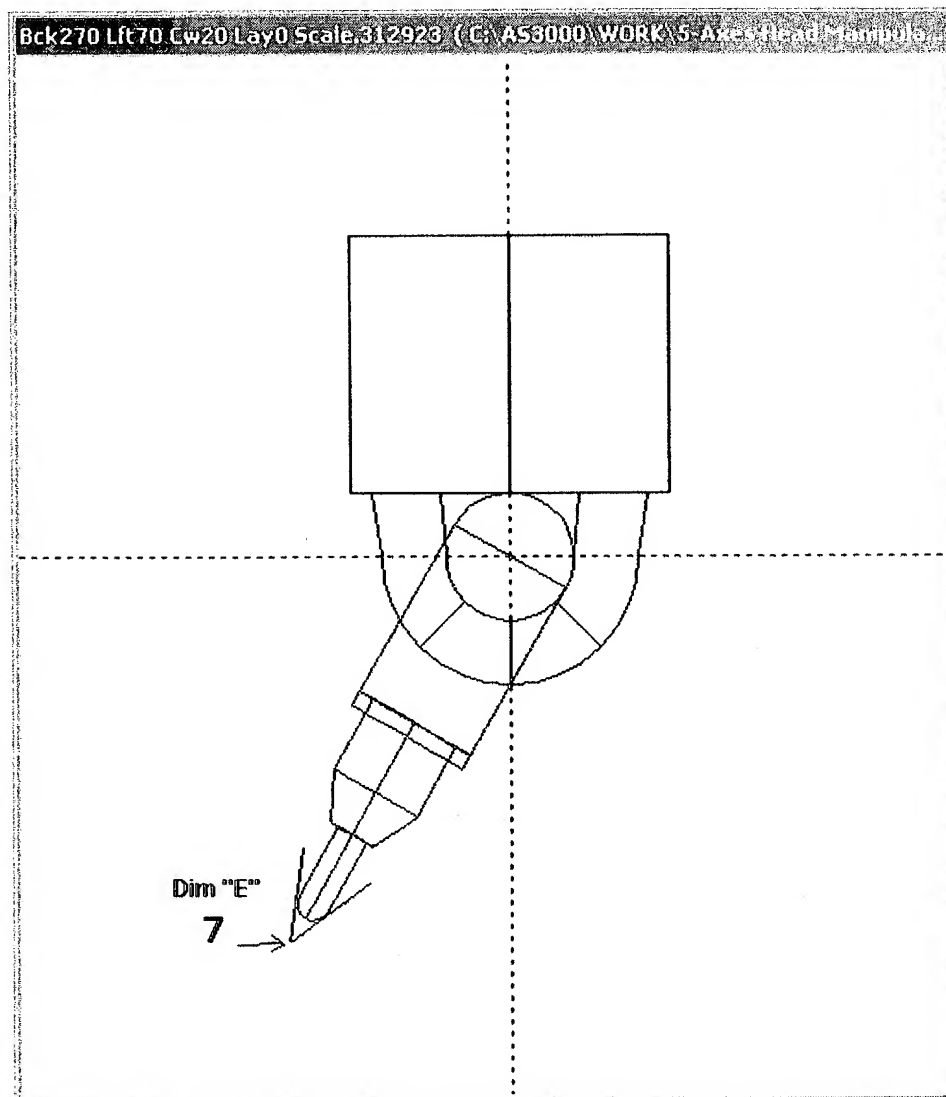


FIG 5.



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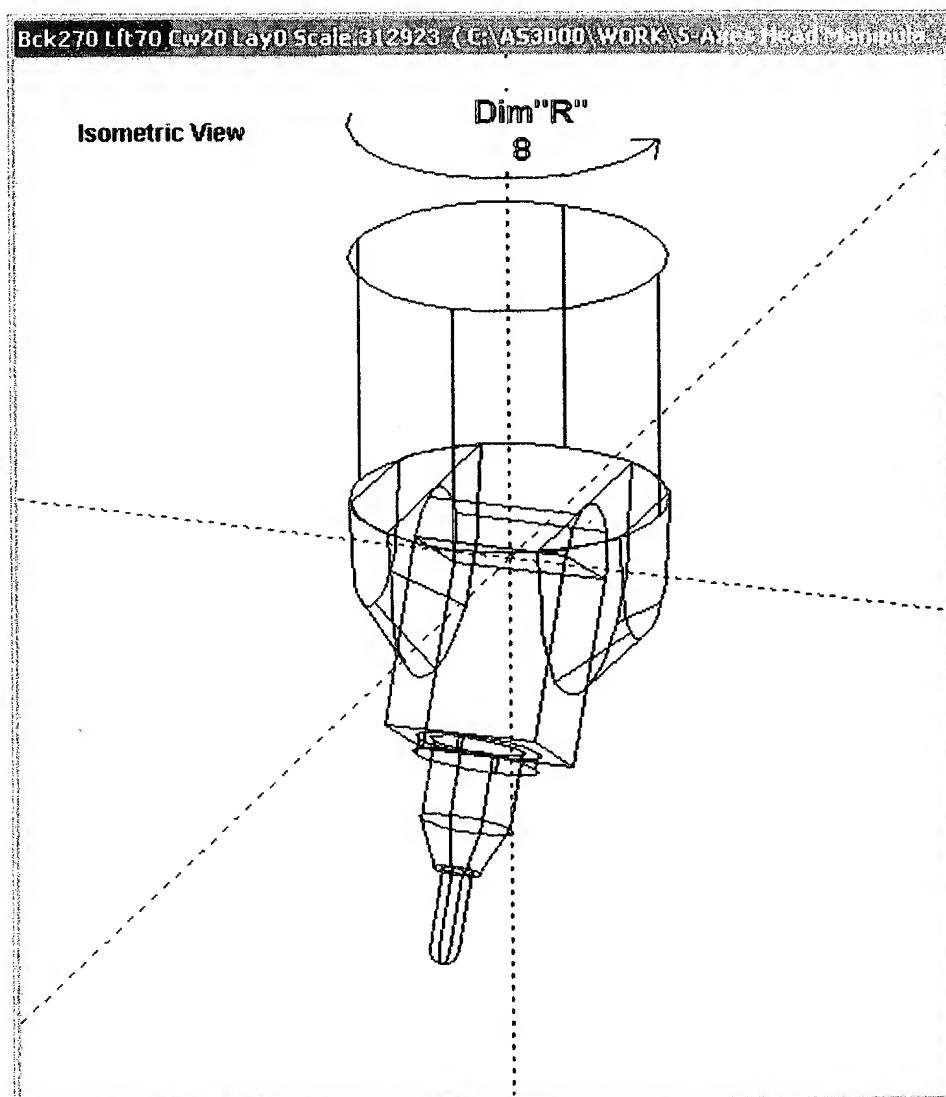


FIG 6.



Invention Title: Multi-Axes Tool Compensation – 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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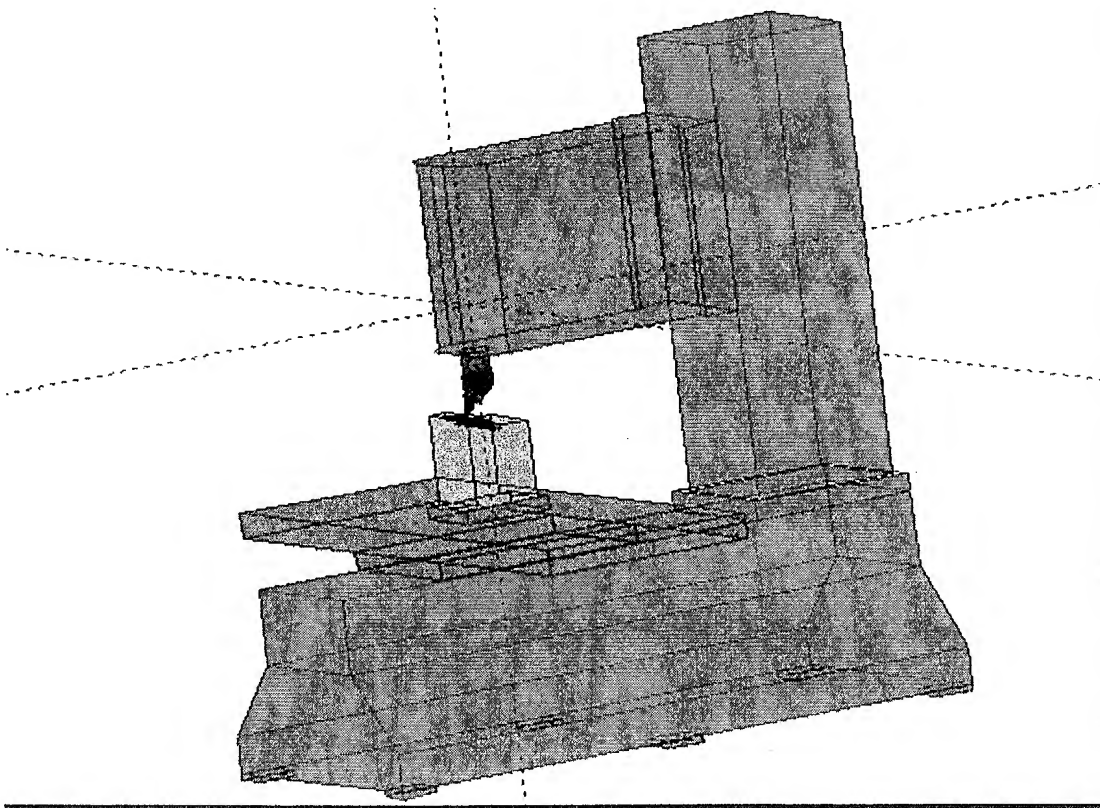


FIG 7.



Invention Title: Multi-Axes Tool Compensation – 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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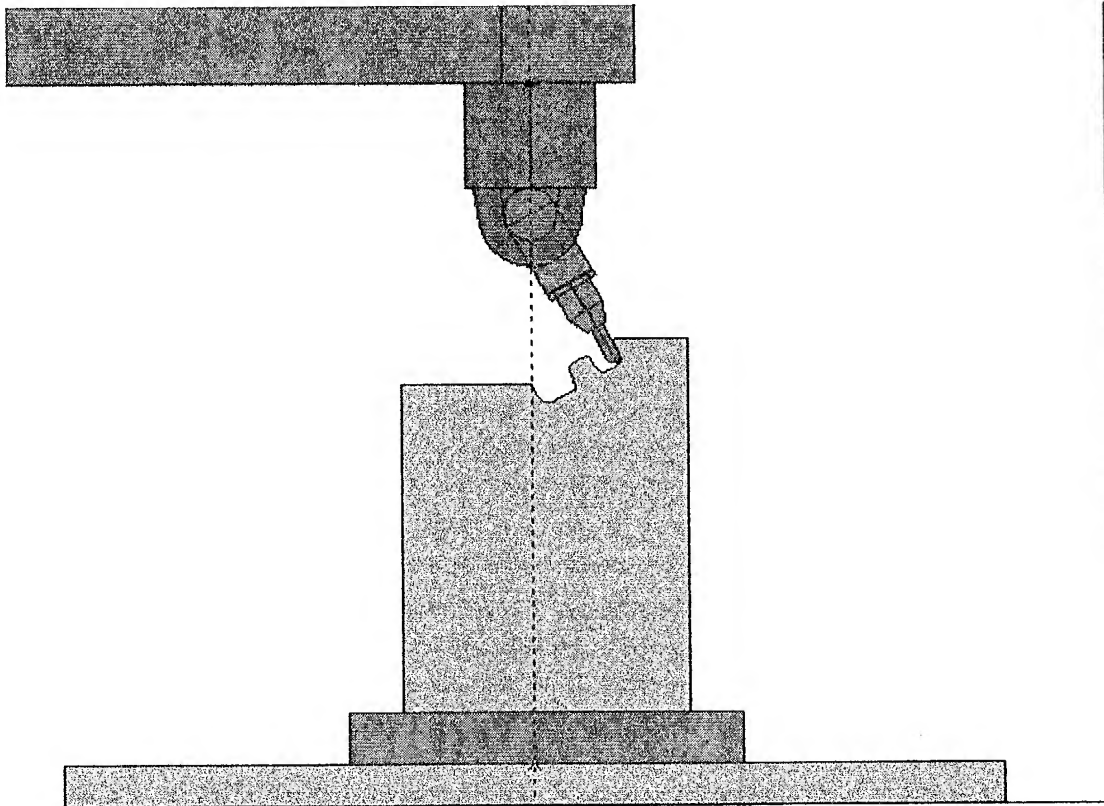


FIG 8.

Invention Title: Multi-Axes Tool Compensation – 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.

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%

N10 T01 M6  
N20 G90 S200 M3  
N30 G0 A270. B0  
N40 X0 Y-21. Z0 M8  
N50 Z20.5  
N60 G1 Y-10.933 Z17.9365 A270. B-30. F10.  
N70 Y-3.2465 Z10.75 A270. B-60.  
N80 Y0 Z.5 A270. B-90.  
N90 Y-3.2465 Z10.75 A90. B-60.  
N100 Y-10.933 Z17.9365 A90. B-30.  
N110 Y-21. Z20.5 A90. B0  
N120 G1 Z0  
N130 G0 A0 B0  
N140 X0 Y-21. Z0 S200 F10.  
N150 G1 Z20.5  
N160 G1 Y-10.9332 Z17.9367 A0 B-29.9993 F10.  
N170 Y-3.2463 Z10.7498 A0 B-60.0007  
N180 Y0 Z.5 A0 B-90.  
N190 Y-3.2465 Z10.75 A180. B-60.  
N200 Y-10.933 Z17.9365 A180. B-30.  
N210 Y-21. Z20.5 A180. B0  
N220 Z0  
N230 G0 A0 B0  
N240 M30

%

FIG 9.